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AUTHOR	Stokrocki, Mary
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ABSTRACT

This case study outlines the program that a teacher developed to integrate a course entitled "Southwest Cultures through Art" for middle school students around an anthropological theme. The course featured units on collage, petroglyphs, and pottery but mostly vernacular architecture. The case starts with a description of the context and participants, an overview of the course, and instructional content in action. A report of the architecture project, working problems, and an example of a student group final presentation is given. The study ends with teachers' and students' responses to the project and conclusions and suggestions for future development. (Author/KC)

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Integrating a Middle School Art Course with an Anthropological Theme

Mary Stokrocki

Arizona State University

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Abstract

This is a case study of one art teacher who integrates a course Southwest Cultures through Art for middle school students around an anthropological theme. The course features units on collage, petroglyphs, and pottery but mostly vernacular architecture. The case starts with a description of the context and participants, an overview of the course and instructional content in action. A report of the architecture project, working problems, an example of a student group final presentation is given next. The story ends with teachers' and students' responses to the project[1] and conclusions and suggestions for future development.

Integrating a Middle School Art Course with an Anthropological Theme

This is a story about one art teacher who integrates his sixth grade art course called "Southwest Cultures Through Art" around an anthropological focus. The story features several views, including those of participating students. Findings are the result of a grant. [2] As primary investigator, I consider myself a participant-observer and student as well. I encourage others to interpret this art course in their schools. The story focuses on a unique architecture unit, the instructional content and sample group works. Most students were excited about what they learned and discovered that the project was more difficult than expected. The story commences with a description of the context and participants and an overview of the program. A description of one student group struggling with building a model Anasazi house follows teachers' responses. Finally, I offer my conclusions and suggestions for future development.

Context and Participants

Located in a Southwestern, suburban, university town, the middle school was built in 1978 and hosts 1,023 students (grades 6-8). The classroom features stimulating displays from floor to ceiling: art history instructional resources, students' artwork, a showcase of toys, and some opaque posters situated in ceiling panels. The art room has a television suspended from the front wall and a computer area in the back of the classroom. The participating teacher Larry Woodson finds facilities adequate but crowded at times.

Woodson is the only art teacher. He taught in this school for six years, won Arizona's outstanding art educator of the year award, and collaborated with me on another study (Stokrocki, 1997). The observed class consists of 20 working class, sixth graders (11 boys &

nine girls) from different ethnic backgrounds. Most students are Caucasian, two are Afro-American, and two are Mexican-American. Most students have had no previous art teacher.

Overview of the Course

Woodson experimented with this interdisciplinary six-week course called "Southwest Cultures through Art" at the sixth-grade level for three years. The course integrated art with anthropology and featured units on cultural collage, petroglyphs, pottery, and architecture. The course began with an introduction of 10 important cultural concepts and small group collages (Abrams, 1987). The central unit was on Pre-Columbian vernacular architecture in which student groups made three-dimensional models. The architecture unit offered experiences in anthropology, problem-solving, hands-on construction techniques, a final group presentation, and field trips to the Desert Botanical Garden and Pueblo Grande Museum.

Woodson focused on the culture and architecture of the ancient Hohokam and Anasazi, and reviewed the following concepts: architecture, floor plan, foundation, cross section, and crossbeam roof layering. In order to discover students' architectural preconceptions, he administered a prequestionnaire and discovered that nearly half of the students did not know what architecture was. Some students defined it as a "building" and "made of clay." When asked what we have in common with ancient people, only six students mentioned "need for shelter." Then he asked if architecture was art. Various responses were: "making a design, made by Indians, put paint on it, express himself, pile of rocks, sculpture, and pieces of clay put together." Clearly students were unsure and uninformed about architecture and their relation to it. Due to lack of space, I only include instructional content related to the major unit on architecture.

Instructional Content in Action

On a prequestionnaire, Woodson asked students, "What is culture?" Some students defined culture as "beliefs and religion" and a few students recognized it as "a way of living." He concluded that students knew very little about the idea of culture. Woodson told them that "culture was an organized system of beliefs, behaviors, and artifacts. For other people, culture can be a struggle of differing thoughts, beliefs, and values." As the course progressed, students learned about cultural struggles as they dealt with their own.

Woodson soon found that they did not understand the term *Southwest*. On a modern map of the United States, he pointed out the states of Colorado, New Mexico, Texas, Arizona, Utah, and California that comprised the area referred to as the Southwest. He showed examples of old maps where the Hohokam and Anasazi lived in the Southwest territories. Then, he showed close-up maps of Arizona and where the students lived in relation to these ancient peoples.

When introducing new information with selected video segments, Woodson reviewed major ideas with students. For example, he inquired, "Hohokam means?" Student 1 answered, "Vanished ones." He then asked, "Where do the they live?" Student 2 replied, "In the desert." Finally, Woodson laughed, "What's on this guy's face?" Student 3 responded, "A tattoo!" Woodson then explained that a tattoo was a tribal identification mark. He invited students to name their groups and to distinguish themselves with tattoos (clown makeup) based on their own symbols (something that stands for another thing). Students enjoyed painting such symbols as suns on their faces and spiders on their hands.

During a field trip to the Desert Botanical Garden, Woodson found that students did not understand the concept of desert. He informed them that the desert is a geographical area determined by the amount of rainfall, high temperature, and usually sandy soil with little

vegetation. The Hohokam people in the low desert build with local natural materials, such as clay, saguaro ribs, and short mesquite and ironwood trees. In contrast, he showed videos about the Anasazi people of the high desert who lived near mountains and used stones and larger trees to construct their houses.

For the final project, Woodson focused on architecture. He asked students, "What is architecture?" Some students said, "buildings or shelters"; but most students replied, "I don't know." In order to discover how many students knew about ancient building, he designed a preliminary drawing task "Draw a Picture of an Ancient Southwest Culture House." Pretest drawings were rather schematic; rectangular in shape; mostly in elevated view with a few details: namely, a door, window, fireplace, and ladder. One student drew a teepee, which is a stereotype that children use for depicting tribal people. Woodson later defined architecture as "the art of building shelters, especially the ones in which we can live." He informed students that anthropologists use the word *shelter* "as a protection from wind, rain, heat, and animals." Shelters can be temporary, movable, or permanent structures. Woodson later added, "Culture shapes housing, but housing can also shape culture. Housing was part of an entire way of life."

Woodson then introduced the concept of cliff dwelling, which the Spanish called a "*pueblo*" (village). The video showed Anasazi cliff dwellings, such as the Canyon de Chelley on the Navajo Reservation. Woodson instructed, "These people built really big cities about five stories high." On another occasion he referred to an architectural photographic display of Chaco Canyon in New Mexico. He explained, "They used 600,000 logs for the village. The nearest forest is 25 miles away. This house can fit 15-20 families in it. Why? They didn't have much stuff and people were smaller." He then explained the basic building method as stone construction. On display in his classroom were models made by previous classes to which he

constantly referred. He later suggested that students include clay people for proportion, to show their relationship to the house.

Woodson also compared ancient and contemporary life and architecture. He explained, for example, how today people live in square houses and look at square televisions. The Hohokam, in contrast, slept in roundhouses and worked outdoors. He showed examples of round Hohokam floor plans from the Pueblo Grande Museum in Phoenix and compared them to rectangular house blueprints designed by contemporary architects.

Fond of riddles, Woodson posed a problem, "Why build a house heavier at bottom?" Student 1 answered, "More support at bottom." Woodson then retorted, "What about the triangular upside-down building in Tempe?" Woodson explained, "That building has steel beams for support, which is a good counter example." Woodson constantly stressed that students build their house foundation, or base, thicker at the bottom, so the walls have enough support to stand. The video example showed a three-story observatory called *Casa Grande*. The Hohokam built the structure over a large platform mound and the clay walls were at least five feet thick at its foundation.

Woodson discovered that students assumed that any form of mud could be used to build houses. He explained, "Desert clay, known as *caliche*, tends to be extremely hard and dense. Also known as *adobe*, *caliche* is not fired. People need to occasionally patch their houses with *caliche* to keep water out." He also introduced students to a professional *mudslinger*, a person who repaired clay walls during a class visit to the Pueblo Grande Museum.

Later in the course, he showed a photographic example of a cross-layered roof, recently restored from another site. The photograph revealed a bottom layer of logs, then a layer of sticks that crossed the first, followed by a third layer of dried plant filler, and on a top layer of mud.

Students wanted to know why the roof was not complete. They learned that the incomplete view was called a cross section.

Woodson also told students to make several *artifacts*, which are objects made by humans. He then questioned students about artifacts in their everyday lives. Woodson's teaching video and photographs revealed pictures of woven mats and baskets, which the early Hohokam used as hunters and gatherers. At the Desert Botanical Gardens, students further explored desert building materials; cactus ribs for a ceiling; and a ramada shelter, a covered post and beam shelter without walls. Two students tried drinking water from hanging gourds and others poked their head into a large pot of water that acted as a primitive air conditioner. The guide explained that the Hohokam later became farmers and dug canals with large sticks for irrigation. Students learned to make copies of Hohokam artifacts: braiding agave for rope and stripping yucca plants for paint brushes and woven baskets. They practiced grinding mesquite flour in a *metate*, which is a stone basin hollowed-out to be a bowl.

Architecture Project and Working Problems

For the architecture studio component of the class, Woodson required students to 1) work in small groups, 2) make a floor plan, 3) find their own materials (be hunters and gatherers), 4) build the structure and show how it is divided, 5) add artifacts, and 6) make a final presentation. Woodson told the class to divide into five cooperative groups of about five students each. Most of the students with whom I spoke were excited about their participation in group projects, especially working with clay for the first time. One girl recognized, "A lot of people used the basic square shape houseing" (sic).

While working most students responded to materials and structural difficulties. Early in the class, for example, one boy from the group "The Clever Ones" identified problems with

physical dimensions. He acknowledged, "Our [clay] window [underneath] broke because the [roof] sticks were too big." After struggling with a wall door, the second group "The Clay Terminators" lifted the top clay layer of their roof, reinforced it with a stick, and added a ladder. Woodson praised them for remembering that these people usually entered their houses through the roof. This group also added a clay man, which they had to alter to fit into their house. The third group "The Bears" quickly threw roof materials together. Woodson took the group aside and asked them if the roof would last in a windstorm. The boys flippantly agreed that it would. Woodson puffed up his cheeks and blew off the roof. He reminded the boys that they had two days to reconstruct the roof "before the heavy rains came." Middle school students learned the skills of balancing, stacking stones, stabilizing walls, modeling of multiple sides, stacking roof supports, and cross layering various materials.

In addition, students didn't realize the difficulties in building with stones. For example, one group of six girls who called themselves "The Clay Terminators" complained that "the walls kept falling down because they forgot to build them thicker at the bottom." I watched one girl who acted as a guard and constantly supported the walls with her hands. Woodson told the girls, "In Italy this ancient craft consists of selecting the right stone, hitting it precisely to direct the split, tapping it in place with a mallet, mixing the cement correctly, and scoring it between stone surfaces. Students learned the possibilities and limitations of their materials and structures.

Students also seemed more interested in making little artifacts than in the actual house construction. Three students noticed one new, Mexican boy in the class making tiny pots. He sat quietly forming clay around his finger. Later he tied sticks together to make several ladders. Other students started making their own pots, *metates*, bows and arrows, and mats. Responses from bilingual students were: "I love the details like the pottery and snake [decoration on the

house]; The house looks better on camra (sic); People made pots--that was pretty neat; and It made the house look very realistic and more colorful." A visiting teacher remarked, "Students were passing from the doll house and erector set stage into the stage of dawning realism." This period was a time of literal and sentimental preferences, simple composition, and stereotypic imagery. Beginning students seemed comfortable with stereotypic content and forms while struggling with technical frustrations.

Final Presentations

Later in the course, Woodson also explained his expectations for their final architecture presentation. He stated, "I'm from Mars and hard of hearing. As a group of concerned citizens, tell me all the wonderful things that you learned." He suggested that they report their choice of people, house style, materials, construction methods, purpose of house, roof construction, and problems and solutions. He ended, "Plan a script, establish eye contact, share the load, take turns, and save each other when one person gets nervous."

Due to limited space, I describe the final presentation of only one group of five boys, who called themselves "The Bears." Their group script with misspellings reads as follows.

> Student 1 "The house we made is an Anasosy [sic Anasazi]. We think that they used stones because they probably lived near a mountain."
>
> Student 2 "We also think that the house is made near a forest because there are lots of trees and wood for roof construction. It must have been really hard for the Anasosy (sic) because it was hard for us."
>
> Student 3 "We tried to make it look as authentic as possible but everyone disagreed."
>
> Student 4 "Some people fooled around and it was hard for them to get back on track. But when we got them back to work, they had good ideas."

Student 5 "The [wall] construction was easy compared to the roof. Crisscrossing and connecting were ten times harder than the basic structure."

Student 6 "The house was hard to build but it was fun at the same time. Thank you for listening to our presentation."

Student Responses

All student groups reported that they struggled the most with roof construction, which was a process of trial and error. Students explored new formations as well as materials through practice and problem solving. Some groups explained construction struggles and solutions.

Only one group of boys never finished and grumbled about each other fooling around. They managed to throw their clay house together at the last minute by using large slabs. Woodson pointed out that the ancient people would not be able to make such large slab walls because they lacked the technology.

At the end of the architecture project, most students indicated that architecture was "something you build" or "the design of a structure." One insightful answer was "a way of expressing a person's life style and what tribe he was in and how he lived." Another student replied, "It's part of a person's culture." Results were mostly based on recall. Perhaps students did not take the questionnaire seriously or the questionnaire could be better structured.

Posttest drawings showed more variety of housing styles. Students correctly labeled them *Red River rock*, *pit houses*, and *cliff dwellings*. Most students also represented floor plans; four students included elevation as well. Seven out of 16 students also drew cross sections of crossbeam roof construction in correct sequence, and three students included written directions as well. Five students mentioned *caliche* walls and four others called it "desert cement." This revealed that more than half of the class understood that this clay was a necessary final covering.

Impressive this time was the amount of tools and details that students added to their drawings. They labeled: "storage areas," "pots," "woven beds," "baskets," "corncobs," "digging sticks," "ladders," "grinders," and "fire pits." When compared to written tests, results show that students can draw more than they can relate with words.

Conclusions

Several significant conclusions can be made from this single case of a course. This teacher-driven course has an anthropological focus that is related to social studies, math, and science. The teacher uses local art and anthropological resources for instruction. He develops a master video and integrates various Southwest concepts so students can learn about different aspects of culture that they have no time to see. He compares past life and architecture of ancient people with contemporary versions, such as floor plans. Teaching exercises are perceptual. Students see and feel the various tactile states of clay, such as plasticity and bone dry, and experienced the kinetic and physical dimensions of balancing heavy roof logs and stabilizing walls. The instructor reinforces this tacit knowledge with technical building information about wooden roof supports and cross layering. Another interdisciplinary aspect is that the course is highly experiential, as suggested by Neperud (1997). For example, during a field trip, students actually practice tribal living (make yucca paint brushes, grind corn, sit in a pit house, and paint tattoos on their hands and faces). A fourth aspect is collaborative as students form tribes and work in small groups, thereby, learning how difficult teamwork can be. A fifth aspect is real-life problem solving, a concern of Neperud (1997). Students struggle with materials (clay and stone masonry) and structures (balanced walls and crossbeam roof construction) to build model houses. Finally, instruction is integrated as students make copies of ancient Southwest artifacts (Hohokam & Anasazi) to fit their shelters.

The type of architecture experienced is vernacular. Davis (1991) stated that *vernacular architecture* is the "study of buildings of the everyday world.... understanding of how things are built--construction and craft processes, and the social relations surrounding the building activity" (p. 45). He argued that such repetitive processes builds on the energy of people, environment, and local economies; hence students learn much about the limits of ancient and contemporary form, technically difficult materials and structures, problem solving, craftsmanship, functional artifacts, tribal group dynamics, and why they failed to cooperate.

Results revealed significant learning that students (especially bilingual ones who struggled with writing) could depict. Students could identify housing style and type of clay, and show skill in depicting floor plans, crossbeam roofs, and an array of appropriate artifacts. Students needed more time and space, however, to think critically. The class was only five weeks long and the architecture unit lasted only a week. They also needed more time to learn to get along. The development of cultural understanding is a difficult multicultural concept to achieve in such a short time. Furthermore, as suggested by Lamme and Thompson (1994), when teaching how to something, teachers may need to demonstrate the entire construction process in advance and list the steps on the wall.

According to Stoddard (1995), simply copying another's artifacts does not constitute creativity. The goals of teaching about Southwest cultures never included creativity. The concept of creativity was for the most part not necessary for making shelters in ancient times. Architectural construction for these ancient peoples demanded repetitive tasks, copying activities, and problem solving under time restraints.

Predrawings and postdrawings seemed to help students who were bilingual or poor writers, who could depict rather than write what they learned. Needed are fewer and clearer

objectives, demonstration of construction steps, and posted steps for building. Smaller groups and shelters may make building structures more efficient. Students' opinions on how to make the class better should be solicited by instructors. Teachers could include measurement skills; information on local clays; and contemporary architectural examples, such as Frank Lloyd Wright's *Taliesin West* and Hopi architect Dennis Numkena's contemporary *Anasazi Resort* in Phoenix. Other examples can be cross-cultural comparisons: for instance, clay mosques and homes in Mali, Africa.

Integrating a middle school art course with an anthropological theme provides a holistic experience that may be more important to students than just the architecture building. This experience includes geographical, social, architectural, artifactual, and cultural aspects of living that enrich students' understanding of diverse people. Middle school teachers should consider duplicating these instructional experiences and investigating the vernacular architecture of their areas both ancient and contemporary.

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Footnote

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